

CLAIMS:

1. A semiconductor device for charge-up damage evaluation, comprising:

a substrate;

a first insulation film formed on said substrate;

a first conductive layer formed on said first insulation film and connected with said substrate;

a second insulation film formed on said first conductive layer;

a second conductive layer formed on said second insulation film and serving as an antenna; and

a third insulation film formed on said second conductive layer.

2. The semiconductor device for charge-up damage evaluation of claim 1, wherein said third insulation film is of a material which is easily charged up.

3. The semiconductor device for charge-up damage evaluation of claim 1, wherein said third insulation film comprises convex and concave portions.

4. The semiconductor device for charge-up damage evaluation of claim 1, wherein geometric patterns are formed at least on said third insulation film which is located above said second conductive layer.

5. The semiconductor device for charge-up damage evaluation of claim 1, wherein a top surface of said third

insulation film has a slit-like shape with a number of parallel slits.

6. The semiconductor device for charge-up damage evaluation of claim 1, wherein a number of slits are formed in an upper portion of said third insulation film in a radial arrangement.

7. The semiconductor device for charge-up damage evaluation of claim 1, wherein a slit is formed in a spiral shape in an upper portion of said third insulation film.

8. The semiconductor device for charge-up damage evaluation of claim 1, wherein a ratio of the surface area size of an antenna portion connected with said second conductive layer to that of a capacitor portion formed by said first conductive layer and said second conductive layer is high.

9. The semiconductor device for charge-up damage evaluation of claim 1, wherein a ratio of the film thickness of said first insulation film to that of said insulation film layer is high.

10. A charge-up damage evaluation method characterized in inspecting, using an optical detect inspection apparatus, the semiconductor device for charge-up damage evaluation of claim 1, 2, 3, 4, 5, 6, 7, 8 or 9 charged up by static electricity at a semiconductor manufacturing step, and calculating a defect occurrence rate from the number of detected defects attributed to static electricity.

11. A charge-up damage evaluation method in which the semiconductor device for charge-up damage evaluation of claim 5 is inspected using an optical detect inspection apparatus and a defect occurrence rate is calculated from the number of detected defects attributed to static electricity, wherein at the time of pulling up a semiconductor manufacturing apparatus for charge-up damage evaluation out from a cleaning liquid at a cleaning step among semiconductor manufacturing steps, pulling-up in a direction parallel to said slits formed in said upper portion of said third insulation film is performed separately from pulling-up in a direction perpendicular to said slits and the semiconductor manufacturing apparatus for charge-up damage evaluation thus pulled up is inspected using said optical detect inspection apparatus.